JOURNAL OF

ISSN 0271-8057

TISSUE CULTURE METHODS

TISSUE CULTURE ASSOCIATION MANUAL OF
CELL, TISSUE, AND ORGAN CULTURE PROCEDURES

VOLUME 14

1992

JOURNAL OF TISSUE CULTURE METHODS

VOLUME 14 NUMBER 1 1992

TABLE OF CONTENTS

IMMUNOLOGICAL TECHNIQUES—Dan Drell and Pat McClintock, *Issue Editors*

Preface
Dan Drell and Pat McClintock 1

Production of Mouse Inflammatory Macrophage Hybridomas
Beth P. Canono and Priscilla A. Campbell 3

Generation of Human Monoclonal Antibody-Producing Cell Lines by Epstein-Barr Virus (EBV)-Transformation of B Lymphocytes and Somatic Cell Hybridization Techniques
Hideyuki Ikematsu, Inna S. Goldfarb, Nagaradona Harindranath, Marion T. Kasaian, and Paolo Casali 9

Culture of Colony-Forming Hematopoietic Progenitor Cells from Human Peripheral Blood
Ping Law, Veena Kapoor, Tish Alsop, and Douglas C. Dooley 13

Antigen-Specific Proliferation of Murine Lymph Node Cells In Vitro
Susan R. Palaszynski, Edmund W. Palaszynski, and Frances P. Noonan 21

Production and Isolation of Anti-Idiotypic B Cells
Terry M. Phillips 25

Enzyme-Linked Immuno-Culture Assay
Henry E. Young, John Sippel, Lorna S. Putnam, Paul A. Lucas, and Donna C. Morrison 31

Preparation of Quiescent Human Monocytes for Studies of Colony-Stimulating Factor Responsiveness
R. Allan Mufson 37

Human Plasma-Derived Media Supplement Supports Antibody Production by Hybridoma Cells
Janet M. Young, Da-Wei Zhang, John Tharakan, Larry Jenkins, Roger Collins, and William N. Drohan 39

JOURNAL OF TISSUE CULTURE METHODS

VOLUME 14 NUMBER 2 1992

TABLE OF CONTENTS

CONTRIBUTED PAPERS

Effect of a New Synthetic Serum Replacement on Insulin and Somatostatin Secretion from Isolated Rat Pancreatic Islets in Long-Term Culture
Barthold Vonen, Kjell Bertheussen, Anton K. Giæver, Jon Florholmen, and Per G. Burhol 45

Cell Culture for Three-Dimensional Modeling in Rotating-Wall Vessels: An Application of Simulated Microgravity
Ray P. Schwarz, Thomas J. Goodwin, and David A. Wolf 51

A Co-Culture System for Studies of Paracrine Effects of Stromal Cells on the Growth of Epithelial Cells
Takuya Kanazawa and Howard L. Hosick 59

Characterization of Three Cell Lines Derived from Color Carp *Cyprinus carpio*
C. C. Ku and S. N. Chen 63

Cryopreservation of Rat Astrocytes from Primary Cultures
M. J. Gómez-Lechón, F. J. Iborra, I. Azorín, C. Guerri, and J. Renau-Piqueras 73

Use of Rhodamine 123 to Identify Viable Cells Isolated from Embryonic Chick Calvaria
A. A. Capehart, R. M. Dillaman, and T. A. Ballard 79

Isolation of Embryonic Chick Myosatellite and Pluripotent Stem Cells
Henry E. Young, Elizenda M. Ceballos, Jennifer C. Smith, Paul A. Lucas, and Donna C. Morrison 85

Method of Culturing Cardiomyocytes from Human Pediatric Ventricular Myocardium
Ren-Ke Li, Richard D. Weisel, William G. Williams, and Donald A. G. Mickle 93

Culture of Porcine Brain Capillary Endothelial Cells: Improvement Using Human Hemangioma-Conditioned Medium
M. Berard, J. L. Carrier, B. Baudin, and L. Drouet 101

JOURNAL OF TISSUE CULTURE METHODS

VOLUME 13 NUMBER 3

[1992]
1991

TABLE OF CONTENTS

METHODS IN KIDNEY EPITHELIAL CELL CULTURE—James A. McAteer, *Issue Editor*

Monolayer Cultures of Microdissected Renal Tubule Epithelial Segments
Patricia D. Wilson 137

Culture of Human Renal Cortex Epithelial Cells
James A. McAteer, Stephen A. Kempson, and Andrew P. Evan 143

Primary Cultures of Shark Rectal Gland Epithelial Cells: A Model for Hormone-Sensitive Chloride Transport
John D. Valentich 149

Intact Organ Culture of Murine Metanephros
William E. Sweeney, Jr. and Ellis D. Avner 163

Growth Characteristics and Measurement of Confluency of Rabbit Primary Proximal Tubule Kidney Cells Grown on Millicell-HA Membrane Filters
Marshall J. Palmoski, Barbara A. Masters, Sue M. Ford, and Oliver P. Flint 169

Fluorescence Activated Cell Sorting of Principal and Intercalated Cells of the Renal Collecting Duct
Géza Fejes-Tóth and Anikó Náray-Fejes-Tóth 173

Immunoselection and Culture of Cortical Collecting Duct Cells
Anikó Náray-Fejes-Tóth and Géza Fejes-Tóth 179

Sodium-Dependent Transport by Cultured Proximal Tubule Cells
Hasan A. Al-Mahrouq, Mark E. Rassier, Thomas P. Dousa, and Stephen A. Kempson 185

Quantitation of Fluid-Phase Endocytosis by Proximal Tubular Cells in Culture
Mohan I. Abraham and Stephen A. Kempson 191

Organic Cation Transport by Cultured Renal Proximal Tubular Epithelia
Mary B. Scheller, Melanie Hosford, and T. Dwight McKinney 195

Methods of Assessing Oxidant Injury in Renal Tubular Epithelial Cells In Vitro
Sharon P. Andreoli and Coleen H. Mallett 199

Use of the pH-Sensitive Dye BCECF to Study pH Regulation in Cultured Human Kidney Proximal Tubule Cells
J. A. Bergman, J. A. McAteer, A. P. Evan, and M. Soleimani 205

Measurement of Intracellular Sodium and Potassium in Cultured Epithelial Cells
M. H. Montrose 211

Monitoring Cytosolic Calcium in Parathyroid Hormone Target Cells: Osteoblasts and Renal Epithelia
Roberto Civitelli, Akimitsu Miyauchi, and Keith A. Hruska 217

A Method to Measure the Rate of Net Fluid Secretion by Monolayers of Cultured Renal Epithelial Cells
T. K. Neufeld, M. E. Grant, and J. J. Grantham 229

Measurement of Cell Volume and Fluid Transport in MDCK Cysts by Video Microscopy
George A. Tanner and James A. McAteer 235

JOURNAL OF TISSUE CULTURE METHODS

VOLUME 14 NUMBER 4 1992

TABLE OF CONTENTS

CELL CULTURE ON PERMEABLE SUPPORTS—Rod Steele and Hank Lane, *Issue Editors*

Foreword
Rod Steele and Hank Lane 163

Acknowledgements 164

Asymmetric Permeabilization of an Epithelium: A Tool to Study a Single Membrane in Isolation
Cindy L. Bell and Paul M. Quinton 165

Cell Surface Biotinylation in the Determination of Epithelial Membrane Polarity
Cara J. Gottardi and Michael J. Caplan 173

Cryosectioning of Epithelial Cells Grown on Permeable Supports
Donna Kendall, Wayne Lencer, and Karl S. Matlin 181

Studies on the Mechanisms of Active Ion Fluxes Across Alveolar Epithelial Cell Monolayers
Kwang-Jin Kim, Duk-Joon Suh, Richard L. Lubman, Spencer I. Danto, Zea Borok, and Edward D. Crandall 187

A Novel System for the Co-Culture of Epididymal Epithelial Cells and Sperm from Adult Rats
Gary R. Klinefelter 195

Epithelial Tissue Formation in Matrix Culture and in Histophysiologic Gradient Culture
Joseph Leighton 201

A Simple Approach to Measurement of Electrical Parameters of Cultured Epithelial Monolayers: Use in Assessing Neutrophil-Epithelial Interactions
James L. Madara, Sean Colgan, Asma Nusrat, Charleen Delp, and Charles Parkos 209

Application of Cultured Endothelial Cells of the Brain Microvasculature in the Study of the Blood-Brain Barrier
Donald W. Miller, Kenneth L. Audus, and Ronald T. Borchardt 217

Differentiation of Epithelial Cells on Microporous Membranes
Laura M. Patrone, Jeffrey R. Cook, Barbara E. Crute, and Robert G. Van Buskirk 225

Use of Commercially Available Cell Culture Inserts for Primary Culture and Electrophysiologic Studies of Guinea Pig Gastric Mucous Epithelial Cells
Michael J. Rutten 235

Endothelial Cells Grown on Permeable Membrane Supports
Sandra S. Shasby 247

Albumin Permeability and Electrical Resistance as Means of Assessing Endothelial Monolayer Integrity In Vitro
Howard W. Sill, Cecil Butler, Theodore M. Hollis, and John M. Tarbell 253

A Device for Sterile Measurement of Transepithelial Electrical Parameters of Cultured Cells
Roderic E. Steele, Joseph S. Handler, Agnes Preston, and John P. Johnson 259

Rat Sertoli-Spermatogenic Cell Co-Cultures Established on Collagen-Glycosaminoglycan Crosslinked Copolymers
Laura L. Tres, Frederick Cahn, and Abraham L. Kierszenbaum 265

Author Index 271

Subject Index 272